

What is claimed is:

1. A liftgate actuating assembly for moving a liftgate of a motor vehicle between an open position and a closed position, said liftgate actuating assembly comprising:  
5 a motor fixedly secured to the motor vehicle, said motor having an output shaft capable of bi-directional rotation;  
a drive gear rotatable about a drive shaft, said drive gear operatively connected to said output shaft to be rotated thereby;  
10 a cable drum rotatably mounted to said drive shaft, said cable drum coupled to said drive gear to be rotated thereby, said cable drum including a cable wrapped thereabout between a drum end fixedly secured to said cable drum and a liftgate end fixedly secured to the liftgate for retracting the liftgate from the open position to the closed position; and  
15 a linkage operatively connected to said drive gear, said linkage movable from a retracted position to an extended position such that said linkage forces the liftgate from the closed position to the open position when said linkage moves from said retracted position to said extended position, said linkage including a slot providing lost motion within said linkage allowing the liftgate to be moved manually to the  
20 closed position without said motor being activated.
2. A liftgate actuating assembly as set forth in claim 1 wherein said linkage includes a curvilinear arm pivotally movable by said drive gear as said drive gear is driven by said motor to move said linkage to said extended position.
3. A liftgate actuating assembly as set forth in claim 2 wherein said  
25 linkage includes a rod having a distal end extending out from said liftgate actuating assembly and engagable with the liftgate.
4. A liftgate actuating assembly as set forth in claim 3 wherein said rod includes said slot.

5. A liftgate actuating assembly as set forth in claim 4 wherein said curvilinear arm includes an arm mount.

6. A liftgate actuating assembly as set forth in claim 5 wherein said rod includes a rod mount disposed opposite said distal end.

5 7. A liftgate actuating assembly as set forth in claim 6 including a spring mounted between said arm and rod mounts to bias said arm and rod mounts toward each other.

8. A liftgate assembly as set forth in claim 7 including a housing covering said drive gear and cable drum.

10 9. A liftgate assembly as set forth in claim 8 including a bias spring extending between said housing and said rod mount to bias said rod out toward said extended position.

10 10. A liftgate assembly as set forth in claim 9 including a roller bearing rotatably secured to said drive gear for abutting against said curvilinear arm to force  
15 said curvilinear arm to move said rod toward said extended position.

11. A liftgate actuating assembly for moving a liftgate of a motor vehicle between an open position and a closed position, said liftgate actuating assembly comprising:

20 a motor fixedly secured to the motor vehicle, said motor having an output shaft capable of bi-directional rotation;

a drive gear rotatable about a drive shaft, said drive gear operatively connected to said output shaft to be rotated thereby;

25 a cable drum rotatably mounted to said drive shaft, said cable drum coupled to said drive gear to be rotated thereby, said cable drum including a cable wrapped thereabout between a drum end fixedly secured to said cable drum and a liftgate end fixedly secured to the liftgate for retracting the liftgate from the open position to the closed position; and

a connecting device operatively connected to said drive gear, said connecting device movable from a retracted position to an extended position such that said connecting device forces the liftgate from the closed position to the open position when said connecting device moves from said retracted position to said extended position.

12. A liftgate assembly for selectively opening and closing an opening in a motor vehicle, said liftgate assembly comprising:

a liftgate pivotally secured to the motor vehicle, said liftgate movable between a closed position over the opening and an open position away from the opening providing access to the motor vehicle;

a motor fixedly secured to the motor vehicle and disposed adjacent the opening, said motor having an output shaft capable of bi-directional rotation;

a drive gear rotatable about a drive shaft, said drive gear operatively connected to said output shaft to be rotated thereby;

a cable drum rotatably mounted to said drive shaft, said cable drum coupled to said drive gear to be rotated thereby, said cable drum including a cable wrapped thereabout between a drum end fixedly secured to said cable drum and a liftgate end fixedly secured to the liftgate for retracting the liftgate from the open position to the closed position; and

a linkage operatively connected to said drive gear, said linkage movable from a retracted position to an extended position such that said linkage forces the liftgate from the closed position to the open position when said linkage moves from said retracted position to said extended position, said linkage including a slot providing lost motion within said linkage allowing the liftgate to be moved manually to the closed position without said motor being activated.

13. A liftgate actuating assembly as set forth in claim 12 wherein said linkage includes a curvilinear arm pivotally movable by said drive gear as said drive gear is driven by said motor to move said linkage to said extended position.

14. A liftgate actuating assembly as set forth in claim 13 wherein said linkage includes a rod having a distal end extending out from said liftgate actuating assembly and engagable with the liftgate.

5 15. A liftgate actuating assembly as set forth in claim 14 wherein said rod includes said slot.

16. A liftgate actuating assembly as set forth in claim 15 wherein said curvilinear arm includes an arm mount.

17. A liftgate actuating assembly as set forth in claim 16 wherein said rod includes a rod mount disposed opposite said distal end.

10 18. A liftgate actuating assembly as set forth in claim 17 including a spring mounted between said arm and rod mounts to bias said arm and rod mounts toward each other.

19. A liftgate assembly as set forth in claim 18 including a housing covering said drive gear and cable drum.

15 20. A liftgate assembly as set forth in claim 19 including a bias spring extending between said housing and said rod mount to bias said rod out toward said extended position.